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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/706,937	11/06/2000	Thomas Huber	N0070US	8577

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NAVTEQ NORTH AMERICA, LLC
222 MERCHANDISE MART
SUITE 900, PATENT DEPT.
CHICAGO, IL 60654

EXAMINER	
LE, MIRANDA	
ART UNIT	PAPER NUMBER
2167	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/08/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	09/706,937	HUBER ET AL.	
	Examiner	Art Unit	
	Miranda Le	2167	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 November 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6 and 8-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6 and 8-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/20/06 has been entered.

2. This communication is responsive to Amendment filed 11/20/06.

Claims 1-6, 8-15 are pending in this application. Claims 1, 2, 14 are independent claims. In the Amendment, claims 1-2, 4-5, 14 have been amended. This action is made Final.

The objection to the specification (claim objection) of the invention has been withdrawn in view of the amendment.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter or any new and useful improvement thereof, may obtain a patent therefore, subject to the conditions and requirements of this title.

4. Claims 1-6, 8-15 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1, 2, 14 fail to provide a practical application that produces a useful, concrete and tangible result. Specifically, claims 1, 2, 14 lacks a tangible result. A tangible result, is a real world result. In other words, the result is required to be outside of the "abstract". Claims 1, 2, 14 merely recite "an index for a geographic database..." that comprising a single index structure which

includes three dimensions wherein a first dimension, a second dimension, and a third dimension defines a sequence of operational steps encompasses within its scope merely a set of mental manipulations that provide an output remaining in the mental realm. As such, the "result" of the index of claims 1, 2, 14 resides in the "abstract" and is, therefore, not a "real world" result.

It is noted that a "wherein" clause in an index claim is not given weight when it simply expresses the intended result of a process step positively recited. See MPEP 2111.04 [R-3].

As such, merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored on a computer-readable medium, in a computer does not make it statutory. See *Diehr*, 450 U.S. at 185-86, 209 USPQ at 8.

Claims 3-6, 8-13, and 15 incorporate the deficiencies of claims 1, 2, 14 and do not add tangibility to the claimed subject matter, they are likewise rejected.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 2, 11, 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shaw et al. (US Patent No. 6,684,219), in view of Kothuri et al. (US Patent No. 6,470,344).

As per claim 2, Shaw teaches an index for a geographic database containing geographic data that represent geographic features, said index comprising:

a structure that includes two spatial dimensions and a non-spatial third dimension *(i.e. the spatial features, the non-spatial feature, col. 13, line 47 to col. 14, line 12)*,

whereby said geographic data indexed by said structure are searchable spatially using said two spatial dimensions of said index structure and a latitude and a longitude *(i.e. latitude/longitude coordinates, col. 14, lines 13-67; spatially indexed to cluster the data according to spatial proximity, col. 13, line 47 to col. 14, line 67)*,

whereby said geographic data indexed by said structure are searchable for a non-spatial property of the indexed geographic data that represent the geographic features using said third dimension of said index structure, wherein, said non-spatial property of geographic data includes at least one of: a rank associated with the geographic features represented by the geographic data (*i.e. a feature level of non-spatial attribute data, col. 6, lines 33-54)*, a granularity of said indexed geographic data, and a scale associated with said with said indexed geographic data (*i.e. the non-spatial feature data specifies an attribute of the data item and is also capable of being index based on the aggregation hierarchy, col. 13, line 47 to col. 14, line 12)*,

wherein said index being stored on a computer readable medium *(col. 13, line 47 to col. 14, line 12)*.

Although Shaw teaches spatial splay tree indexing and R tree indexing at col. 13, lines 32-46, Shaw does not teach:

a single indexing structure;

wherein said structure is a k-d- tree index structure comprising a root node, intermediate nodes and leaf nodes.

Kothuri teaches:

a single indexing structure *(i.e. R-TREE in Fig. 4, col. 3, line 50 to col. 4, line 18);*

wherein a structure that is a k-d- tree index structure comprising a root node, intermediate nodes and leaf nodes *(i.e. R-TREE in Fig. 4, col. 3, line 50 to col. 4, line 18).*

It would have been obvious to one ordinary skill in the art having the teachings of Shaw and Kothuri at the time the invention was made to modify the structure of Shaw to include a single indexing structure; said structure is a k-d- tree index structure comprising a root node, intermediate nodes and leaf nodes as taught by Kothuri. One of ordinary skill in the art would be motivated to make this combination in order to provide effective management of data that are inherently multi-dimensional such as geographic, multimedia in view of Kothuri, as doing so would give the added benefit of indexing multi-dimensional data, storing such data in a relational database management system and efficiently retrieving the data upon demand as taught by Kothuri *(col. 1, lines 11-14).*

As per claim 14, Shaw teaches an index for data comprising:

a structure that includes a first dimension, a second dimension and a third dimension *(i.e. the spatial features, the non-spatial feature, col. 13, line 47 to col. 14, line 12),*

wherein said first dimension includes latitude boundary information *(latitude/longitude coordinates, col. 14, lines 13-67),*

wherein said second dimension includes longitude boundary information *(latitude/longitude coordinates, col. 14, lines 13-67),*

whereby said data indexed by said structure are searchable using a latitude and a longitude *(i.e. spatially indexed to cluster the data according to spatial proximity, col. 13, line 47 to col. 14, line 67; The user specifies at step 91 a geographic area of coverage, either by coordinate points, longitude/latitude coordinates, or a place name optionally selected from a table of place names, col. 14, lines 13-67),*

wherein a selectivity of said indexed data is searchable using said third dimension *(i.e. the non-spatial feature data specifies an attribute of the data item and is also capable of being index based on the aggregation hierarchy, col. 13, line 47 to col. 14, line 12; Some queries may involve only the non-spatial aspect of the data, col. 13, lines 13-67),*

wherein said index being stored on a computer readable medium *(i.e: entity ID, col. 17, line 22 to col. 18, line 26).*

Shaw does not specifically teach:

a single indexing structure;

said first and second dimensions of said indexing structure;

wherein said third dimension includes a selectivity of said indexed data, whereby said data indexed by said indexing structure is searchable for said selectivity using said third dimension of said indexing structure.

Kothuri teaches:

a single indexing structure *(i.e. R-TREE in Fig. 4, col. 3, line 50 to col. 4, line 18);*

said first and second dimensions of said indexing structure *(i.e. a set of multi-dimensional/multi-attribute data items is indexed by recursively clustering the data items into smaller collections until each cluster can be stored (i.e., indexed) in a single leaf node of a hierarchical (e.g., tree-structured) index, col. 3, lines 32-43).*

wherein said third dimension includes a selectivity of said indexed data, whereby said data indexed by said indexing structure is searchable for said selectivity using said third dimension of said indexing structure *(i.e. a dimension may be selected based upon an expected or specified query pattern, col. 3, lines 44-55).*

It would have been obvious to one ordinary skill in the art having the teachings of Shaw and Kothuri at the time the invention was made to modify the structure of Shaw to include a single indexing structure; said first and second dimensions of said indexing structure; said third dimension includes a selectivity of said indexed data, whereby said data indexed by said indexing structure is searchable for said selectivity using said third dimension of said indexing structure, as taught by Kothuri. One of ordinary skill in the art would be motivated to make this combination in order to provide effective management of data that are inherently multi-dimensional such as geographic, multimedia in view of Kothuri, as doing so would give the added benefit of indexing multi-dimensional data, storing such data in a relational database management system and efficiently retrieving the data upon demand as taught by Kothuri *(col. 1, lines 11-14).*

As per claim 11, Shaw teaches said selectivity is a scale associated with the indexed data *(col. 4, lines 7-30).*

As per claim 13, Kothuri teaches selectivity is a creation date associated with the indexed data *(i.e. sales data may have attributes such as time e.g., time of sale, col. 7, lines 1-16).*

7. Claims 1, 3-6, 8, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shaw et al. (US Patent No. 6,684,219), in view of Kothuri et al. (US Patent No. 6,470,344), and in view of Ashby et al. (US Patent No. 5,974,419).

As per claim 1, Shaw teaches an index for a geographic database containing data that represent geographic features, said index comprising:

a structure that includes three dimensions *(i.e. the spatial features, the non-spatial feature, col. 13, line 47 to col. 14, line 12),*

wherein a first dimension of said three dimensions includes latitude boundary information *(latitude/longitude coordinates, col. 14, lines 13-67),* a second dimension of said three dimensions includes longitude boundary information *(latitude/longitude coordinates, col. 14, lines 13-67),* said data that represent geographic features indexed by said structure are searchable spatially using a latitude and a longitude *(i.e. spatially indexed to cluster the data according to spatial proximity, col. 13, line 47 to col. 14, line 67),*

wherein a third dimension of said three dimensions includes rank information, wherein each of said geographic features have an associated rank information, wherein said rank information has at least two levels (*i.e. a feature level of non-spatial attribute data, col. 6, lines 33-54),* said data that represent geographic features indexed by said structure are searchable for said rank of the geographic features (*i.e. the non-spatial feature data specifies an attribute of the*

data item and is also capable of being index based on the aggregation hierarchy, col. 13, line 47 to col. 14, line 12),

wherein said index being stored on a computer readable medium *(col. 13, line 47 to col. 14, line 12).*

Although Shaw teaches said rank information has at least two levels (*i.e. a feature level of non-spatial attribute data),* Shaw does not specifically teach:

a single indexing structure;

said first and second dimensions of said indexing structure;

using said third dimension of said indexing structure.

Kothuri teaches:

a single indexing structure *(i.e. R-TREE in Fig. 4, col. 3, line 50 to col. 4, line 18);*

said first and second dimensions of said indexing structure *(i.e. a set of multi-dimensional/multi-attribute data items is indexed by recursively clustering the data items into smaller collections until each cluster can be stored (i.e., indexed) in a single leaf node of a hierarchical (e.g., tree-structured) index, col. 3, lines 32-43).*

using said third dimension of said indexing structure *(i.e. a dimension may be selected based upon an expected or specified query pattern, col. 3, lines 44-55).*

It would have been obvious to one ordinary skill in the art having the teachings of Shaw and Kothuri at the time the invention was made to modify the structure of Shaw to include a single indexing structure; said first and second dimensions of said indexing structure; using said third dimension of said indexing structure, as taught by Kothuri. One of ordinary skill in the art would be motivated to make this combination in order to provide effective management of data

that are inherently multi-dimensional such as geographic, multimedia in view of Kothuri, as doing so would give the added benefit of indexing multi-dimensional data, storing such data in a relational database management system and efficiently retrieving the data upon demand as taught by Kothuri *(col. 1, lines 11-14).*

Shaw, Kothuri do not specifically teach a first level of rank is associated with the most important geographic features and a second level of rank is associated with geographic features of lesser importance.

Ashby teaches a first level of rank is associated with the most important geographic features and a second level of rank is associated with geographic features of lesser importance *(i.e. The "rank" of a road segment may be related to its functional class with road segments having a rank of "0" being slowest and narrowest, road segments having a rank of "1" being larger and faster, road segments having a rank of "2" being major roads, and so on, col. 7, lines 20-36).*

It would have been obvious to one ordinary skill in the art having the teachings of Shaw, Kothuri and Ashby at the time the invention was made to modify the structure of Shaw, Kothuri to include a first level of rank is associated with the most important geographic features and a second level of rank is associated with geographic features of lesser importance as taught by Ashby. One of ordinary skill in the art would be motivated to make this combination in order to organize, store and retrieve of geographic data that facilitates use of the geographic data for various navigating functions in view of Ashby, as doing so would give the added benefit of providing a user of the system with an optimum route for traveling from one location in a geographic area to a destination location as taught by Ashby *(col. 2, lines 24-28).*

As per claim 3, Kothuri teaches said structure is a k-d-tree index structure comprising a root node, intermediate node and leaf nodes, wherein each node is part of a parent-child relationship wherein each parent node includes control information from which one of at least two child nodes associated with the parent node are distinguishable based on search key *(i.e. R-TREE in Fig. 4, col. 3, line 50 to col. 4, line 18).*

As per claim 4, Shaw teaches said index is homogeneous *(col. 13, line 47 to col. 14, line 67).*

As per claim 5, Shaw teaches said index is non-homogeneous *(Fig.1, col. 2, line 61 to col. 3, line 5).*

As per claim 6, Shaw teaches geographic features are roads *(col. 9, lines 39-57).*

As per claim 8, Ashby teaches rank includes both integers values (*col. 7, lines 20-36) and* fractional values (*col. 8, lines 15-25).*

As per claim 15, Ashby teaches said data that represent geographic features are organized into layers based on said rank associated with the represented features *(i.e. The attributes tables 29 provide physical characteristic information regarding each geographical structure within the coverage level, col. 3, lines 18-43, col. 6, line 63 to col. 7, line 67).*

8. Claims 9, 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shaw et al. (US Patent No. 6,684,219), in view of Kothuri et al. (US Patent No. 6,470,344), and further in view of Ashby et al. (US Patent No. 5,974,419).

As per claim 9, Shaw and Kothuri do not specifically teach selectivity is a granularity of the indexed data.

Ashby teaches selectivity is a granularity of the indexed data *(i.e. the non-spatial feature data specifies an attribute of the data item and is also capable of being index based on the aggregation hierarchy, col. 13, line 47 to col. 14, line 12, col. 19, lines 6-22).*

It would have been obvious to one ordinary skill in the art having the teachings of Shaw, Kothuri, and Ashby at the time the invention was made to modify the structure of Shaw and Kothuri to include selectivity is a granularity of the indexed data as taught by Ashby. One of ordinary skill in the art would be motivated to make this combination in order to organize, store and retrieve of geographic data that facilitates use of the geographic data for various navigating functions in view of Ashby, as doing so would give the added benefit of providing a user of the system with an optimum route for traveling from one location in a geographic area to a destination location as taught by Ashby *(col. 2, lines 24-28).*

As per claim 10, Shaw and Kothuri do not specifically teach selectivity is a viewing altitude associated with the indexed data.

Ashby teaches selectivity is a viewing altitude associated with the indexed data *(col. 5, lines 20-37).*

Ashby teaches selectivity is a granularity of the indexed data *(i.e. the non-spatial feature data specifies an attribute of the data item and is also capable of being index based on the aggregation hierarchy, col. 13, line 47 to col. 14, line 12, col. 19, lines 6-22).*

It would have been obvious to one ordinary skill in the art having the teachings of Shaw, Kothuri, and Ashby at the time the invention was made to modify the structure of Shaw and Kothuri to include selectivity is a viewing altitude associated with the indexed data as taught by Ashby. One of ordinary skill in the art would be motivated to make this combination in order to organize, store and retrieve of geographic data that facilitates use of the geographic data for various navigating functions in view of Ashby, as doing so would give the added benefit of providing a user of the system with an optimum route for traveling from one location in a geographic area to a destination location as taught by Ashby *(col. 2, lines 24-28).*

9. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shaw et al. (US Patent No. 6,684,219), in view of Kothuri et al. (US Patent No. 6,470,344), and further in view of Dunworth et al. (US Patent No. 5,930,474).

As per claim 12, Shaw, Kothuri do not specifically teach selectivity is an expiration date associated with the indexed data.

Dunworth teaches selectivity is an expiration date associated with the indexed data *(Fig. 17, an expiration date field 1700, col. 24, lines 29-39).*

It would have been obvious to one ordinary skill in the art having the teachings of Shaw and Dunworth at the time the invention was made to modify the structure of Shaw to include selectivity is an expiration date associated with the indexed data as taught by Dunworth. One of

ordinary skill in the art would be motivated to make this combination in order to efficiently organize information into a consistent presentation and geographically organize information.

Response to Arguments

11. Applicant's arguments regarding Shaw and Ashby fail to disclose claim 1, Shaw and Kothuri fail to disclose claim 2, Kothuri does not anticipate claim 14, have been considered but are moot in view of the new ground(s) of rejection, as necessitated by the amendment.

12. Applicant's arguments filed 11/20/06 have been fully considered but they are not persuasive.

(a) Applicant argues that Shaw does not disclose the recited single indexing structure that includes three dimensions with the first and second dimensions includes latitude and longitude boundary information and the third dimension includes rank information.

The Examiner agrees. However, the claimed limitation are rejected under 35 USC 103(a) as being unpatentable Shaw, Kothuri and Ashby.

First, Shaw discloses a VPF database comprises three basic types of information for spatial features: spatial geometric properties (locations), non-spatial properties (attributes), and topological properties (relationships) (See col. 2, lines 27-47). The spatial geometric properties are boundary information (as recited in claim 1) including latitude and longitude *(i.e. latitude/longitude rectangles, col. 2, line 61 to col. 3, line 17).*

Second, the Shaw invention discloses a method of building an object-oriented database from VPF database, an object including spatial and non-spatial feature data *(See col. 5, line 66 to*

col. 6, line 10). Therefore, the spatial feature of an object-oriented database of Shaw includes latitude/longitude rectangles, which correspond to boundary information as recited in claim 1.

Shaw does not specifically teach a single indexing structure;

said first and second dimensions of said indexing structure;

using said third dimension of said indexing structure.

Kothuri teaches:

a single indexing structure *(i.e. R-TREE in Fig. 4, col. 3, line 50 to col. 4, line 18);*

said first and second dimensions of said indexing structure *(i.e. a set of multi-dimensional/multi-attribute data items is indexed by recursively clustering the data items into smaller collections until each cluster can be stored (i.e., indexed) in a single leaf node of a hierarchical (e.g., tree-structured) index, col. 3, lines 32-43).*

using said third dimension of said indexing structure *(i.e. a dimension may be selected based upon an expected or specified query pattern, col. 3, lines 44-55).*

It would have been obvious to one ordinary skill in the art having the teachings of Shaw and Kothuri at the time the invention was made to modify the structure of Shaw to include the limitations as taught by Kothuri. One of ordinary skill in the art would be motivated to make this combination in order to provide effective management of data that are inherently multi-dimensional such as geographic, multimedia in view of Kothuri, as doing so would give the added benefit of indexing multi-dimensional data, storing such data in a relational database management system and efficiently retrieving the data upon demand as taught by Kothuri *(col. 1, lines 11-14).*

Shaw teaches non-spatial dimension *(i.e. non-spatial properties (attributes), col. 2, lines 27-47)* including rank information *(i.e. level coverage) (i.e. The attributes tables 29 provide physical characteristic information regarding each geographical structure within the coverage level, col. 3, lines 18-43). But* Shaw, Kothuri do not explicitly teach "the most important geographic features and a second level of rank information is associated with geographic features of lesser importance."

Ashby teaches a first level of rank is associated with the most important geographic features and a second level of rank is associated with geographic features of lesser importance *(i.e. The "rank" of a road segment may be related to its functional class with road segments having a rank of "0" being slowest and narrowest, road segments having a rank of "1" being larger and faster, road segments having a rank of "2" being major roads, and so on, col. 7, lines 20-36).*

It would have been obvious to one ordinary skill in the art having the teachings of Shaw, Kothuri and Ashby at the time the invention was made to modify the structure of Shaw, Kothuri to include a first level of rank is associated with the most important geographic features and a second level of rank is associated with geographic features of lesser importance as taught by Ashby. One of ordinary skill in the art would be motivated to make this combination in order to organize, store and retrieve of geographic data that facilitates use of the geographic data for various navigating functions in view of Ashby, as doing so would give the added benefit of providing a user of the system with an optimum route for traveling from one location in a geographic area to a destination location as taught by Ashby *(col. 2, lines 24-28).*

(b) Applicant argues that Kothuri fails to disclose the recited single index structure. The Examiner respectfully disagrees for the following reasons:

First, a single index structure of Kothuri is taught as a set of multi-dimensional data is indexed and can be stored in a single leaf node of a hierarchical index (col. 3, lines 32-43). Therefore, a set of multi-dimensional data of Kothuri includes first, second and third dimensions.

Second, Kothuri discloses the step of searching by one of multi-dimensional data (col. 3, lines 44-55), as such, a third dimensional should be used in searching an indexed data (i.e. a single node of Kothuri).

Third, Kothuri teaches said third dimension includes a selectively of said indexed data as in col. 4, lines 1-13. It is noted that each index node includes a unique identifier of the corresponding node, e.g. a parent node, a sibling node, chide node, thus, *a unique identifier of Kothuri* corresponds to said third dimension of the claim, and a selectively of said indexed data of the claim corresponds *to a parent node, a sibling node, chide node of Kothuri.*

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Miranda Le whose telephone number is (571) 272-4112. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Cottingham, can be reached on (571) 272-7079. The fax number to this Art Unit is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Miranda Le
February 02, 20067